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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,464	12/23/2004	Mitsuo Najima	SIP008	2676

7590 02/22/2006

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EXAMINER

ASINOVSKY, OLGA

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/519,464

Applicant(s)

NAJIMA ET AL.

Examiner

Olga Asinovsky

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/09/2005</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masuda et al U.S. Patent 6,861,471.

The claimed invention is a method for producing an acrylic-modified chlorinated polyolefin resin ... in the presence of a cyclic ether compound.

A cyclic ether compound can be considered as an organic solvent medium because there is no statement that said cyclic ether compound is a reactive compound. In an alternative, a cyclic ether compound can be considered as a crosslinking compound to increase a curing process for a coating composition.

Masuda discloses a coating composition comprising an acrylic-modified chlorinated polyolefin. A process for producing a coating composition comprises a first step of graft-copolymerizing of an alpha, beta-unsaturated carboxylic acid and an acid anhydride thereof on to polypropylene, col. 3, lines 9-15, for producing an acid-modified polyolefin (A), col. 3, lines 34-35. In the second step, the acid-modified polyolefin (A) is chlorinated for obtaining an acid-modified chlorinated polyolefin (B), col. 3, lines 54-56. The acid-modified chlorinated polyolefin (B) is esterified by reacting with a (meth)acrylic ester

having one hydroxyl group, col. 4, lines 23-34. In the subsequent step, (meth)acrylic acid monomers are graft-copolymerized with the acid-modified chlorinated polyolefin for producing an acrylic-modified chlorinated polyolefin (C), col. 4, lines 58-62. Masuda discloses that the acid-modified chlorinated polyolefin is esterified with a hydroxyl-group containing (meth)acrylic ester in a solvent medium including tetrahydrofuran, col. 4, line 39. Tetrahydrofuran is within the scope of a cyclic ether compound. Masuda discloses a coating composition and a method for producing an acrylic-modified chlorinated polyolefin resin that are readable in the present claims.

The difference between the claimed invention and Masuda is that the present claims 1 and 5 require a monomer mixture containing a (meth)acrylate ester monomer having one hydroxyl group and the other vinyl monomer in the presence of a cyclic ether compound. Masuda discloses all limitations of the ingredients specified in the present claims. However, Masuda does not disclose a graft-copolymerization of a monomer mixture with an acid-modified chlorinated polyolefin in one step. It would have been obvious to one of ordinary skill in the art to modify a process of the esterification and grafting in one step in the presence of tetrahydrofuran in Masuda invention in the absence of unexpected results and enhanced property of the acrylic-modified chlorinated polyolefin and since it is within the skill of the worker in the art.

Masuda does not disclose the specified cyclic ether compound such as dioxane and/or 1,3-dioxolane in the present claim 3. However, it would have been obvious to one of ordinary skill in the art to consider that dioxane and 1,3-dioxolane work within the same

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expectation for being a cyclic ether compound such as tetrahydrofuran in Masuda invention being a solvent medium for graft polymerization and a solvent for a coating composition.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The closest prior art is Patent 6,861,471 to Masuda. This reference has been discussed above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

O.A

February 20, 2006

Olga Asinovsky
Examiner
Art Unit 1711



James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700